AMSAT News Service Weekly Bulletins
Issue: ANS-272
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Hi ya'll,

I'm trying something different now that I've had a chance to move some files off of my company owned machine which has me quite restricted as to what changes I can make. Let's see what happens next. The feedback I received mentioned the re-posting of the ANS Bulletins here as being good exposure for AMSAT and the satellite community. I agree and I'm willing to give this a try.

Ed. Note - Some people noticed that the message format below didn't contain line breaks to force the 'plain text 80 column' mode'. It seemed to display OK on most mail readers but your mileage may vary. The 80 column format will return in future isues.

73 de JoAnne WB9JEJ

AMSAT NEWS SERVICE
ANS-272

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

ANS is pleased to announce the 20th Space Symposium and AMSAT-NA annual Meeting. This conference is scheduled for November 7-11, 2002 in Fort Worth, Texas, and will chronicle recent and future Amateur Radio satellite technology developments, including an Electronic Surplus Stores tour on November 7th; a Field Operations Breakfast and a tour of the Lockheed Martin Aeronautics Company on November 10th. AMSAT Members are welcome to attend the AMSAT Board of Directors Meeting on November 10th and 11th. The Chair for the 2002 event is Keith Pugh W5IU.

[ANS thanks Keith Pugh, W5IU, the 2002 event chairman]

SB SAT @ AMSAT $ANS-272.01
ANS NEWS IN BRIEF

AMSAT News Service Bulletin 272.01 From AMSAT HQ
SILVER SPRING, MD. SEPTEMBER 29, 2002
To All RADIO AMATEURS
BID: $ANS-272.01

** A new AMSAT Net for beginners, which started on July 17th and has been held weekly is on Wednesday nights 7 pm to 8:30 pm PDT (this is Thursday 0200-0330

UTC). You can join the net via the internet by connecting to node "925", the
Western reflector in Las Vegas NV. (http://www.irlp.net)
You can also check-in via 20 Meters on 14.282 MHz for those who do not yet have
IRLP in their area. More information is available on-line at:
http://www.w6fog.com/ . Neil is happy to announce that the net has brought 53
new satellite operators up on the satellites in the 7 weeks the net has been
running. -- Neil W6FOG

** The US Naval Academy's PCsat (NO-44) entered full sun this past week and has
been usable on ALL passes day and night. Everyone is welcome to digipeat UI
packets via W3ADO-1 on 145.825 up and down. As the eclipse cycle repeats PCsat
will return back to midday and afternoon passes only
until one day her batteries will eventually fail. -- Bob WB4APR

** The ARRL Certification and Continuing Education program offers the ARRL
Satellite Communications course (EC-007). More information is available on the
ARRL Certification and Continuing Education Web page at
http://www.arrl.org/cce
. -- ARRL

** For those with access to NASA TV the docking of the Progress 9 to ISS/Zvezda
live coverage of its arrival will begin at 12:30 p.m. EDT. Progress 9 is
scheduled to dock at 1:07 p.m. EDT Sunday, Sept. 29. -- NASA

** Here's one to check out for the next shuttle launch. Try watching the webcam
mounted on the external fuel tank:
http://spaceflightnow.com/station/sts112/020912shuttlecam/ -- Alan ZL2VAL

** Russian businessman Serguey Polonsky may become the next space tourist after
the Russian Space Agency found him fit to make the trip, Ria Novosti reported
last week. US boy band heartthrob Lance Bass will resume his space training
which was interrupted earlier this month after the pop idol's sponsors failed to
pay his dues, Russian space officials said. --SpaceDaily

** India's first meteorological satellite, METSAT, was successfully switched on
from Master Control Facility at Hassan on September 19, 2002. The first
full-frame image was of earth in the visible spectral band. It showed the full
earth disc and the adjoining deep space. --SpaceDaily

** A 150-ton magnet developed in part by MIT engineers is pulling the world
closer to nuclear fusion as a potential source of energy. The ultimate goal of
the project is a magnet weighing 925 tons that in turn, will be part of a total
magnet system weighing some 10,000 tons. During a test run the overall device
produced a magnetic field of 13 tesla (about 260 thousand times more powerful
than the Earth's magnetic field) with a stored energy of 640 megajoules at a
current of 46,000 amperes. -- SpaceDaily

** Move over WWV. The NASA Jet Propulsion Lab Frequency Standards team has developed and installed a new trapped ion atomic clock for the U.S. Naval Observatory in Washington. These recent JPL innovations result in a clock with
an effective stability that is equivalent to about one minute in 10 billion years - the approximate age of the universe. --NASA/JPL

[ANS thanks JoAnne Maenpaa WB9JEJ for the above information.]

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SB SAT @ AMSAT $ANS-272.02
AO-7 SWL QSL CARDS NOW AVAILABLE

AMSAT News Service Bulletin 272.02 From AMSAT HQ
SILVER SPRING, MD. SEPTEMBER 29, 2002
To All RADIO AMATEURS
BID: $ANS-272.02

A small number of the ORIGINAL two batches of AO-7 SWL QSL cards from the 1970's
have been discovered in the AMSAT offices. They are not all perfect, but they
are ORIGINAL, and are available for those that send an AO-7 reception report to:
Andy MacAllister - W5ACM, 14714 Knights Way Drive, Houston, TX 77083-5640.
Please include a business-size S.A.S.E. with your reception report.

[ANS thanks JoAnne Maenpaa WB9JEJ for the above information.]

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SB SAT @ AMSAT $ANS-272.03
AMSAT 1974 NEWSLETTER

AMSAT News Service Bulletin 272.03 From AMSAT HQ
SILVER SPRING, MD. SEPTEMBER 29, 2002
To All RADIO AMATEURS
BID: $ANS-272.03

Reprints of the December 1974 AMSAT Newsletter are now available. This issue
was published shortly after the launch of AMSAT-OSCAR-7. Not only is it full of
AO-7 information, but is fascinating to read.

To get YOUR copy, send a $5 donation ($6 for non-U.S. addresses) made out to "AMSAT" to: Andy MacAllister - W5ACM, 14714 Knights Way Drive, Houston, TX 77083-5640

[ANS thanks JoAnne Maenpaa WB9JEJ for the above information.]

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SB SAT @ AMSAT $ANS-272.04
SATELLITE DX-PEDITION PLANNED FOR GUAM

AMSAT News Service Bulletin 272.04 From AMSAT HQ
SILVER SPRING, MD. SEPTEMBER 29, 2002
To All RADIO AMATEURS
BID: $ANS-272.04

Yoshi JF6BCC announced that his satellite DXpedition plans to operate from Guam
(KH2) are set to go. He plans to be active between October 11 to October 14.

His satellite operating plans include:

AO-40: Due to the bad squint, AO-40 operation will be optional. He will bring his portable station there, but his operations depend on the condition/schedule of AO-40.

FO-20: On early-morning passes FO-20 will by at around apogee so the footprint will include KH6~VK~VU. Please e-mail Yoshi if you want to make a schedule. (jf6bcc@jarl.com)

AO-10: Depends on the condition of the satellite.

AO-7: Will try.

Other LEOs: He will QRV on UO-14, AO-27 and FO-29 regularly. Also he would like to try ISS/DIGI.

HF/6m: Maybe a little bit of the time.

QSL info is VIA JF6BCC (Direct or via JA bureau OK). Please do not use the KH2
bureau. You can mail to his KH2GR mailing address in California but it will take a few weeks or months.

Also Yoshi says, "I already booked my flight to T88 Palau in the middle of next
February. Maybe I will QRV from there."

[ANS thanks Yoshihiro Imaishi JF6BCC/KH2GR for the above information.]

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SB SAT @ AMSAT $ANS-272.05
ANS GOOD NEWS OF THE WEEK

AMSAT News Service Bulletin 272.05 From AMSAT HQ
SILVER SPRING, MD. SEPTEMBER 29, 2002
To All RADIO AMATEURS
BID: $ANS-272.05

** Bill K7MT Helena, Montana achieved his first contact via AO-40 last week. He
checked into the Beacon + 20 net reporting the downlink signal strength at S4 at
his QTH. His station consists of a KLM 70cm up link and Directive Systems 13
element RCHP for the down link. His future plans include experiments with a BBQ
dish (3 Foot) and a parabolic dish. Bill commented, "I am 55 but felt like I
was 25! You should have seen the smile and the excitement on my face!" Jim
K6CCC recorded Bill's first QSO in an MP3 file.

** Paul N5XMV reports he was able to be digipeated through the ISS for the first
time last week. He told ANS, "It was real exciting. I had watched others as
they did it, but was not sure what I needed to do. I remembered that a few

of us
do keyboard chats thru a digi in Temple, Tx. and figured I needed to set my
Unproto up for the ISS. It Worked!!" He had a station in California send a
line
with his call in it which stated he was received there. Paul uses Satscape
for
tracking. He monitors the ISS freq in his scanner, and when he hears it,
switches the frequency on his packet rig. Paul concluded with, "I appreciate
all
the efforts by the many people who have worked over the years to make all of
this possible for the rest of us to enjoy."

** Thomas N2YTF made his first SSB satellite contact via FO-20 after being
active on the fm birds for some time with his full duplex HT and a handheld
arrow yagi. He started using his Icom 706mkIIG for the uplink and his Yaesu
FT-871 for the downlink. When the 706 failed, he switched to running the
817 at
5W for uplink power. He now receives the downlink with an Alinco DJX-2000
handheld scanner with a GaAs FET battery powered preamp on the front-end.
Thomas said, "Amazingly, the setup worked and I successfully worked WB4FWQ
for
my first FO-20 contact."

** ANS would like to print your successes as you get things to work on a new
satellite, work your first satellite DX, etc. Send your reports to ANS
Editor
JoAnne Maenpaa at wb9jej@amsat.org and they will be printed here.

[ANS thanks and congratulates K7MT, N5XMV, and N2YTF for this week's good
news.]

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SB SAT @ AMSAT $ANS-272.06
JT44 WEAK SIGNAL EXPERIMENTS SHOW PROMISE ON AO-40

AMSAT News Service Bulletin 272.06 From AMSAT HQ
SILVER SPRING, MD. SEPTEMBER 29, 2002
To All RADIO AMATEURS
BID: $ANS-272.06

As you may have already read in the AO-40 status reports, the wonders of
orbital
mechanics are combining into a short-term condition where many "average"
CW/SSB
stations on the bird may not be able to access it.

In the near future the squint angles and solar angles will be worsening. The
AO-40 command team has announced that the passbands will be turned off in
about
7 days as solar/squint angles worsen. The passbands will be re-established
in
several weeks, when AO-40 comes out of drift and ALAT begins lowering. When
AO-40 gets to that point, the best conditions will be shortly after perigee.
The schedule will be adjusted accordingly. AO-40 should be back to
ALON/ALAT =
0/0 about November 15th. The Command Team says we can stay there until
early
March 2003.

Roy VE7BPB in Vancouver reports he has had success with his testing using
the
JT44 weak signal program through AO-40. Conditions are best for CW/SSB

signals
when the squint angle is less than 20 degrees. Roy says he has had success
with
high squint angles around 45 to 50 degrees when no other stations could be
heard.

Roy said in an earlier message he posted, "I found that one difficulty is
knowing where your downlink signal will be in relation to your uplink
signal.
The normal practice of just tuning for your own carrier doesn't work too
well
because you can't hear it." He found that he can run a program called
Spectran
which helped him to reliably tune in his signals, even when they were below
audibility.

In regards to finding his otherwise inaudible signal with Spectran, Roy
said,
"Well, it works exactly as advertised. I was able to find my own signal
fairly
quickly, and from there the JT44 frequency display got me down to the last
few
hertz. The JT44 sync tones seem to be around 1300 hertz, so by tuning the
receiver, and watching Spectran for the train of pulses at about 1300 hz, I
could quickly find myself. And as a bonus, it would be a good way to
identify
another JT44 station that you couldn't hear. The pulse train is quite
unique,
with the higher frequency tones showing up as random dots next to the sync
pulses."

Roy thinks this would be an ideal way to find JT44 stations operating at a
"calling frequency" on the satellite, such as 50 KHz below the beacon. This
"calling frequency " idea is used for JT44 on the vhf/uhf bands.

Roy also notes additional results from his testing. It seems to him that it
is
easier to decode very weak JT44 signals using the L2 uplink rather than the
L1
uplink, even with the 6 db weaker signals on L2. One hypothesized cause is
this
may be due to the way the L1 receiver jumps back and forth in frequency
every
10-15 seconds. The 10 Hz movement it makes is probably enough to upset the
decoding algorithm in JT44. Since the frequency on L2 is rock stable, it
seems
to decode somewhat better.

So far, Roy has worked 2 other stations successfully on JT44. He also had
another station try to answer his CQ, but was too far off in
time-synchronization to decode. (It may have been a JA station.)

Roy summed up with, "It seems that this mode might be quite interesting for
those times when regular communications are too difficult, or for small
stations
that want to play. I have decoded my own signals under good conditions (less
than 20 degrees squint) while running only 40 watts eirp on the L-band
uplink,
so it opens up some interesting possibilities."

Here is a list of links for additional information and downloads of the
software
packages mentioned:

Joe Taylor, K1JT's, "official" Web site at
http://pulsar.princeton.edu/~joe/K1JT/

Additional JT44 links:
http://www.vhfdx.de/wsjt/jt44.htm
http://www.qsl.net/wb5apd/jt44-eme.html
http://www.pingjockey.net/cgi-bin/pingtalk

The Spectran web page is at:
http://www.qsl.net/padan/spectran.html

[ANS thanks Roy VE7BPB, Ray W2RS, and Stacey W4SM for the information used to
compile this article. Written by JoAnne WB9JEJ.]

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SB SAT @ AMSAT $ANS-272.07
RADIO IN SPACE: IO - A JOVIAN TRANSMITTER

AMSAT News Service Bulletin 272.07 From AMSAT HQ
SILVER SPRING, MD. SEPTEMBER 29, 2002
To All RADIO AMATEURS
BID: $ANS-272.07

There are many mysteries in deep space. Men and their machines are hard at work
trying to resolve them. At the heart of unmanned space flight, the Jet
Propulsion Laboratory, in Southern California is home to the huge antennas that
control the space ships that go out in the attempt to unlock the secrets. It
also is home to amateur radio station W6VIO and many of the hams who run the
station take part in the deep space endeavors.

The latest report says they have found that IO, a volcanic moon circling the
planet Jupiter, transmits charged particles easily detectable as power and
noise. But the moon apparently has no magnetic field. These data were gathered
by NASA's Galileo spacecraft as it orbited Jupiter for the last 6 years.

The discovery took on importance last Fall. The researchers were trying to
determine whether the moon created its own magnetic field inside the massive one
generated by Jupiter, the largest of all our solar planets. When Galileo crossed
the path of a magnetic field connection between IO and Jupiter, suddenly the
density of the charged particles through which it was passing increased but no
magnetic field was detected. Leaving the researchers, in their earthly control
room, yet anther puzzle of the universe to solve.

For the amateur radio newsline, Roy Neal, K6DUE

More on this fascinating finding is available in cyberspace at
www.jpl.nasa.gov/videos/Io (NASA-JPL)

[ANS thanks Bill Pasternak WA6ITF and Amateur Radio Newsline for the above
information.]

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SB SAT @ AMSAT $ANS-272.08
ARISS CONTACT SCHEDULE

AMSAT News Service Bulletin 272.08 From AMSAT HQ
SILVER SPRING, MD. SEPTEMBER 29, 2002
To All RADIO AMATEURS
BID: $ANS-272.08

Upcoming ARISS Contact Schedule as of 2002-09-20 03:00 UTC

The ARISS (a joint effort of AMSAT, the ARRL, NASA, the ARISS international partners including Canada, Russia, the European Partners, and Japan) operations
team wishes to announce the following very tentative schedule for ARISS school
contacts. This schedule is very fluid and may change at the last minute. Remember that amateur radio use on the ISS is considered secondary. Please check the various AMSAT and ARISS webpages for the latest announcements. Changes from the last announcement are noted with (***). Also, please check MSNBC.com for possible live retransmissions
(http://www.msnbc.com/m/lv/default.asp). Listen for the ISS on the downlink of
145.80 MHz.

For information about educational materials available from ISS partner space Agencies, please refer to links on the ARISS Frequently Asked Questions page.

If you are interested in supporting an ARISS contact, then you must fill in an
application. The ARISS operations mentor team will not accept a direct request
to support an ARISS contact.

You should also note that many schools think that they can request a specific
date and time. It does not work that way. Once an application has been accepted, the ARISS mentors will work with the school to determine a mutually
agreeable date.

Websites that may be of interest include:

http://www.arrl.org/sarex
http://www.arrl.org/ariss
http://www.amsat.org
http://ariss.gsfc.nasa.gov
http://spacelink.nasa.gov/index.html
http://ehb2.gsfc.nasa.gov/edcats/educator_guide/

Your completely filled out application should be returned to the nearest coordinating ARISS region if your specific region is not listed. E-mail is the
preferred method of submitting an application.

Here are the email addresses:
ARISS-Canada and all other countries not covered: ve2ka@rac.ca (Daniel Lamoureux VE2KA)
ARISS-Europe: jh.hahn@gmx.net (J. Hahn, DL3LUM / PA1MUC)
ARISS-Japan and all Region 3 countries: iaru-r3@jarl.or.jp (Keigo Komuro JA1KAB)
ARISS-Russia: n2ww@attbi.com (Valerie Agabekov N2WW/UA6HZ)
ARISS-USA: ARISS@arrl.org (The American Radio Relay League)

ISS Expedition 5 crew:
Peggy Whitson KC5ZTD
Sergei Treschev RZ3FU
Valeri Korzun RZ3FK

Whitson Crew Pick, Martensdale - St. Mary's School, Martensdale, IA
2002-09-19 17:22 UTC via WH6PN
Contact was successful. Congrats to St. Mary's and Peggy Whitson. Thanks to
MSNBC.com for the live coverage (***)

Joamie Ilniarvik, Iqualuit, Nunavut, Canada
Fri. 2002-09-27 13:41 UTC via ZS6BTD 41 deg
Watch for MSNBC.com coverage

Whitson Crew Pick, St. Mark's Lutheran School, Hacienda Heights, CA
Option # 1 Wednesday 2002-10-02 19:24 UTC via VK5ZAI 86 degrees
Option # 2 Friday 2002-10-04 21:23 UTC via NN1SS 65 degrees

Lamar Elementary (was Travis), Greenville, Texas, direct via KC5GQP
Week of 2002-10-14 TBD

Whitson Crew Pick, Spruce Hill Christian School (K-8), Philadelphia, PA
Week of 2002-10-21 TBD

Whitson Crew Pick, Silver Hills Middle School, Fairplay, CO
Week of 2002-10-28 TBD

Jamboree Station, The Netherlands, PI4RIS
TBD during JOTA 2002-10-19 to 2002-10-20

Frank De Winne Crew Pick, Royal Technical School Belgian Air Force, Sint Truiden, Belgium
Direct via ON4BAF
2002-11-03 TBD

Frank De Winne Crew Pick, Euro Space Center, Transinne, Belgium, direct via ON4ESC or Telebridge
2002-11-04 TBD

Adler Planetarium & Astronomy Museum, Chicago, Illinois direct via AJ9N
TBD
Look for possible live streaming video, the website is http://www.adlerplanetarium.org

Center for Educational Technologies, Wheeling Jesuit University, Wheeling, WV
Telebridge TBD

St. Ursula's College, Toowoomba, Australia
TBD

The latest ARISS announcement and successful school list in now available on the
ARISS web site. There are several ways to get there. Try http://ariss.gsfc.nasa.gov and click on English. You are now at http://www.rac.ca/ariss.htm. Click on News and you should be in the right place.

Currently the ARISS operations team has a list of over 60 schools that we (***)
hope will be able to have a contact during 2002-2003.   As the schedule (***)

becomes more solidified, we will be letting everyone know. Current plans call
for an average of one scheduled school contact per week.

[ANS thanks Charlie Sufana AJ9N for the above information.]

/EX

Thanks and 73,
This weeks ANS Editor:
Rich Krajewski WB2CRD
wb2crd@arrl.net